

A NEW GENUS AND TWO NEW SPECIES OF
AFRICAN FRUIT-FLIES.

By ERNEST E. AUSTEN.

(Published by permission of the Trustees of the British Museum.)

Family TRYPETIDÆ.

Subfamily DACINÆ.

*CARPOPHTHOROMYIA**, gen. nov.

Closely allied to *Ceratitis*, MacLeay, and agreeing therewith in thoracic chætotaxy† and venation: differing in general facies of body, in shape of scutellum, and in that of ovipositor, the first segment of which, instead of being flattened and truncate triangular in shape, is thickened and tubular, resembling that of *Urophora*.

Cephalic bristles and shape of antennæ as in *Ceratitis*; arista plumose or pubescent; body in all species at present known for the most part shining black, with yellow or yellowish-white markings on the pleuræ; dorsum of thorax frequently with characteristic transverse band or bands of minute, appressed, whitish or yellowish hairs; scutellum,—which in the known species is entirely or mainly yellow or yellowish white,—not rounded and swollen as in *Ceratitis*, and in no way trilobate in appearance, but bluntly triangular, and flattened on the sides. Wings in at least one species speckled with blackish brown near the base, as in *Ceratitis*; costal spine present and distinct; first and third longitudinal veins setigerous.

Typical species *Musca vittata*, Fabr. (Ent. Syst., iv. 1794, p. 355:—*Trypeta vittata*, Loew, Berl. Ent. Z., v. Jahrg., 1861, p. 262, Tab. ii, fig. 3,—figure of wing), which, originally met with in Guinea, is represented in the Museum Collection by a male from Delagoa Bay, Portuguese East Africa (*Mrs. Monteiro*), and a male and female from Malvern, Natal, March and June, 1897 (*G. A. K. Marshall*). It may be noted that, so long ago as 1862, it was pointed out by Loew (Berl. Ent. Z., vi. Jahrg., p. 90) that this species belongs to the DACINÆ. In addition to *Musca vittata*, Fabr., and the two new species described below, *Trypeta grata*, Wied. (Auss. Zw. Ins., ii. 1830, p. 498; Loew,

* καρπο-φθόρος, spoiling fruit; μυία, a fly.

† For diagram of thoracic chætotaxy in *Ceratitis*, see Bezzi, Boll. del Lab. di Zool. gen. e agr. della R. Scuola Sup. d'Agric. in Portici, vol. iii. 1909, p. 275, fig. 1.

Berl. Ent. Z., v. Jahrg., 1861, p. 266, Taf. ii, fig. 6—Cape Colony), *T. tritea*, Walk. (List Dipt. Ins. in coll. Brit. Mus., iv. 1849, p. 1034—Sierra Leone), and *T. scutellata*, Walk. (Insecta Saundersiana, Diptera, Part iv. 1852, p. 384), must also be assigned to *Carpophthoromyia*. Besides the type of *C. scutellata*, which is labelled “? Senegal,” the Museum possesses a female of this species from the Hinterland of Sierra Leone (*Lieut. Boyd Horsbrugh*, 1898).

It will be seen that, so far as our present knowledge goes, the genus is confined to Africa. Nothing has yet been recorded as to the life-history of any of the species, though there can be little doubt that, like those of other DACINÆ, the larvæ are destructive to fruit.

Carpophthoromyia pulchella, sp. n. (Fig. 1.)

♂ ♀.—Length, ♂ (1 specimen) 4 mm., ♀ (2 specimens) 4·8 to 5 mm.; length of proximal segment of ovipositor 1·4 to 1·5 mm.; width of head, ♂ 1·8 mm., ♀ 1·6 to 1·75 mm.; length of wing, ♂ 5 mm., ♀ 4·6 mm.

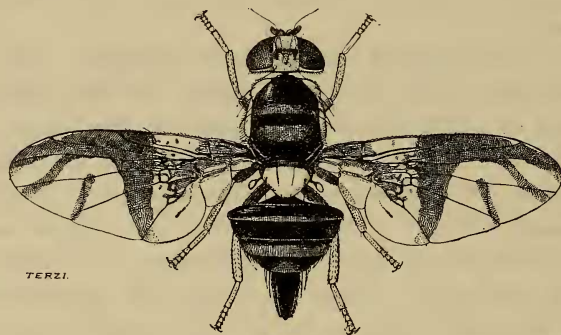


Fig. 1.—*Carpophthoromyia pulchella*, Austen. ♀ (× 6).

Head straw-yellow* or cream-buff coloured, with dark brown markings; body shining black, scutellum, metapleuræ, and an oblique stripe on each side of thorax, including humeral callus and extending to posterior margin of mesopleura, Naples yellow; upper surface of abdomen with two whitish-grey or cream-buff-coloured bands, hind border of fourth segment in ♀ cinnamon-rufous; wings hyaline, with sharply defined clove-brown markings; legs buff-yellow, middle and hind femora, anterior and posterior surfaces of front femora, and extreme base of middle and hind tibiæ clove-brown.

Head: occiput with two clove-brown blotches, narrowly separated in middle line in ♂, but meeting together, at any rate below, in ♀, in which

* For names and illustrations of colours, see Ridgway 'A Nomenclature of Colors for Naturalists' (Boston: Little, Brown, and Company, 1886).

sex they are larger ; these blotches recede from sides of head below, so as to leave more of yellow ground-colour visible in that region ; posterior orbits not conspicuous or sharply defined ; a seal-brown transverse band on upper half of front, extending from eye to eye immediately below ocellar triangle, and a second similar but slightly deeper band across lower margin of front and upper part of face, thus including point of origin of antennæ ; an inconspicuous seal-brown mark below eye on each side, extending to margin of buccal cavity ; *palpi* broad, cinnamon-coloured ; *antennæ* dark brown, first and second joints tinged with chestnut, arista pubescent, clove-brown, buff at base ; cephalic bristles, like macrochætæ on body, black. *Thorax* : dorsum with two transverse bands of minute, whitish or yellowish, appressed hairs, which contrast with the general black hue of the ground-colour ; anterior band of whitish hairs just in front of transverse suture, extending from side to side, its central region with a somewhat greyish ground, while towards its extremities, which rest on the transverse suture or even extend just across it, ground-colour may show traces of cinnamon-rufous ; posterior band, which, at least in the case of the three specimens available for examination, consists of distinctly yellowish hairs, situate between bases of wings, but not reaching lateral margins and scarcely extending beyond dorsocentral bristle on each side ; humeral calli and yellow stripe on mesopleuræ thinly clothed with pale yellow hair. *Abdomen* : on upper surface (except lateral margins) posterior third of first segment and posterior two-thirds of third segment cream-buff in ♂, whitish grey in ♀, clothed with short, glistening, yellowish-white hair ; hair elsewhere inconspicuous and mainly black, on sides of fourth segment in ♀, and on first segment of ovipositor brownish ; long bristles on sides and hind margin of fourth segment conspicuous in ♀ ; proximal segment of ovipositor tapering towards distal extremity, from which in the case of one specimen the tip of the following segment and the needle-like point of the terminal segment can be seen protruding. *Wings* : main clove-brown markings consist of a band which, commencing in second costal cell (outer costal cell of Loew) just on proximal side of bent-up terminal portion of auxiliary vein, on one hand extends along costa to tip of wing, filling space between costa and third longitudinal vein, and dipping below latter at its distal extremity so as to fill upper distal angle of first posterior cell,—and on other hand sends off a transverse branch, which starts from third longitudinal vein close to its base and terminates on sixth longitudinal vein near hind margin of wing ; this transverse branch, which at its base covers anterior transverse vein, leaves a narrow hyaline edging of irregular shape in extreme base of discal cell, and is narrower below fifth longitudinal vein ; in addition to main transverse branch just described, clove-brown costal border sends off from about its middle a narrow oblique branch of uniform width, which crosses fourth longitudinal vein and

terminates just below distal extremity of latter on hind margin of wing; a short, oblique, and somewhat paler brown band, not connected with costal border, covers posterior transverse vein, projects slightly above fourth longitudinal vein at its upper end, and at its other extremity reaches hind margin of wing so as to cover distal extremity of fifth longitudinal vein; upper extremity of this band seen against a light background is isabella colour rather than brown; base of wing, including first costal cell (inner costal cell of Ioev), proximal extremity of second costal cell, proximal third of first basal cell and proximal half of second basal cell, and greater part of anal cell clove-brown, periphery or at least upper margin of first costal cell narrowly paler; hyaline area between clove-brown base of wing and main transverse band speckled with clove-brown, in such a way as to form a partial connection between the two; second costal cell with a small but conspicuous clove-brown spot in its centre, a second small spot in marginal cell immediately below, and two small flecks in third posterior cell, close to its proximal extremity; in marginal cell next costa, at a point about two-fifths of distance between distal extremities of first and second longitudinal veins, commences a narrow hyaline edging, which broadens somewhat in distal extremity of marginal cell, and is visible again as a hyaline fleck next costa in upper two-thirds of submarginal cell, either separated from second longitudinal vein or extending backwards for a short distance as a narrow edging below distal extremity of latter; when wing is held up to the light and examined with a lens, two darker flecks can be observed in costal border, in distal extremity of marginal cell, corresponding to similar flecks seen in wing of *Ceratitis capitata*, Wied.; *alula* hyaline; veins clove-brown, except costa above hyaline portion of second costal cell, and portions of fourth and fifth longitudinal veins in hyaline parts of distal half of wing, colour of which is cream-buff. *Halteres* clove-brown, basal half of stalks cream-buff. *Legs*: hair and bristles on femora and apical bristles on middle tibiae black, row of short bristles on outer side of hind tibiae ochraceous.

UGANDA: types of ♂ and ♀ and one other ♀ from Entebbe, 15 & 24.xi.1909 (*C. C. Gowdey*).

Types in the British Museum (Natural History).

***Carpophthoromyia formosula*, sp. n. (Fig. 2.)**

♂.—Length (1 specimen) 3.75 mm.; width of head 1.5 mm.; length of wing 3.8 mm.

Head straw-yellow, with clove-brown markings; *vertex* Naples yellow; *body* shining black, *scutellum*, *metapleurae*, and an oblique stripe on each side of *thorax*, including *humeral callus* and extending to posterior margin of *mesopleura*, Naples yellow, as in preceding species; *abdomen* practically unicolorous, without lighter bands, though extreme posterior edge of first segment is buff, and, in

typical specimen at any rate, there is a median burnt-umber-coloured streak on terminal segment; wings hyaline, with four separate dark brown markings (occupying much less of wing-surface than in case of dark markings on wing of foregoing species), and not speckled with clove-brown near base; tibiæ and tarsi buff-yellow, femora, base of middle tibiæ and rather less than proximal half of hind tibiæ clove-brown.

Head: occiput clove-brown, with exception of sharply defined and relatively broad posterior orbits, which are very conspicuous when head is viewed from behind; front with clove-brown transverse band immediately below ocellar triangle, sides of which it encloses; face and area below eyes clove-brown, except an extremely narrow whitish streak in each antennal groove, an equally narrow yellowish line next the eye on the lower facial orbit on each

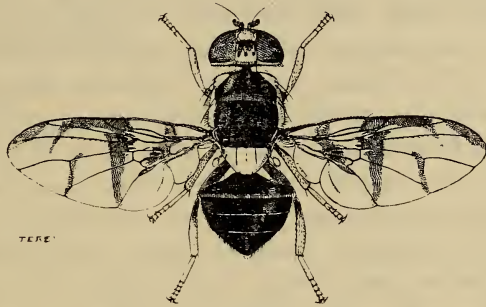


Fig. 2.—*Carpoplthoromyia formosula*, Austen. ♂ ($\times 6$).

side, and a narrow, ill-defined, yellowish, transverse line, interrupted in middle, across centre of face; palpi and proboscis clove-brown; antennæ uniformly clove-brown, arista pubescent, cream-buff at base; cephalic bristles, like macrochætæ on body, black; postorbital bristles on upper third of posterior orbits conspicuous against the straw-yellow ground. *Thorax*: dorsum clothed with minute black hairs, and with a single transverse band of similar yellowish hairs in front of transverse suture; humeral calli and oblique stripe on mesopleuræ clothed with Naples yellow hair; scutellum uniformly Naples yellow, entirely without dark markings. *Abdomen*: hair on dorsum entirely black, except on hind border of first segment, which is thinly clothed with whitish or pale yellowish hairs. *Wings* hyaline at base, as also throughout greater portion of their surface; starting from costa where it is joined by humeral transverse vein, a dark brown transverse band runs down into lower angle of anal cell; next dark brown mark is also a transverse band (wider than previous one but much narrower than corresponding band on wing of *C. pulchella*), base of which also rests on costa, fills distal portion of third costal cell (stigma), and extends into distal extremity of second costal cell, on

proximal side of bent-up terminal portion of auxiliary vein; this transverse band crosses base of submarginal and distal extremity of first basal cell, covering anterior transverse vein, crosses discal cell near its proximal extremity, and terminates on sixth longitudinal vein close to hind margin of wing, diminishing somewhat in breadth below third longitudinal vein and being much narrower at its lower extremity; connected with base of this transverse band is a brown longitudinal band, which occupies almost whole of marginal cell, and from its distal extremity near distal angle of marginal cell sends off an oblique extension, which crosses submarginal cell, then becomes much narrower, and dies away in first posterior cell before reaching fourth longitudinal vein; in marginal cell distal angle and a semi-oval mark resting on second longitudinal vein, immediately below junction of first longitudinal vein with costa, are hyaline; remaining brown markings consist of a longitudinal stripe running along distal extremity of costa and extending from upper distal angle of submarginal cell into upper distal angle of first posterior cell (brown costal border of distal portion of wing thus being interrupted just before junction of second longitudinal vein with costa), and a narrow oblique band, which, starting from hind margin at point where it is joined by fifth longitudinal vein, covers posterior transverse vein and terminates in first posterior cell just above fourth longitudinal vein and well on proximal side of junction of latter with posterior transverse vein; *alula* hyaline; veins dark brown, except in hyaline parts of wing, where they are for most part cream-buff or buff. *Halteres* buff. *Legs*: hair and bristles on femora and apical bristles on middle tibiae black, row of short bristles on outer side of hind tibiae and on externo-posterior side of middle tibiae brownish.

UGANDA, 1909 (received from *Colonel Sir David Bruce, C.B., A.M.S., F.R.S.*).

Type in the British Museum (Natural History).

The six species of *Carpophthoromyia* at present known may be distinguished as follows:—

- | | |
|---|----------------------------|
| 1. Scutellum entirely yellow | 2. |
| Scutellum partly clove-brown or black, or with clove-brown or black markings | 4. |
| 2. Brown costal border of distal portion of wing interrupted .. | <i>formosula</i> , Austen. |
| Brown costal border of distal portion of wing entire | 3. |
| 3. Brown costal border sending off a branch towards tip of wing. | <i>pulchella</i> , Austen. |
| Brown costal border of wing sending off no such branch | <i>scutellata</i> , Walk. |
| 4. Tip of scutellum clove-brown | <i>vittata</i> , Fabr. |
| Tip of scutellum not clove-brown, but posterior margin of scutellum marked with clove-brown or black spots..... | 5. |
| 5. Humeral calli dark brown | <i>tritea</i> , Walk. |
| Humeral calli yellow | <i>grata</i> , Wied. |

Although the British Museum collection as yet contains no specimen of *Trypeta grata*, Wied., judging from Loew's description of the species and figure of the wing, referred to above, there can be little doubt that this species also belongs to *Carpophthoromyia*. The scutellum is said to have "three large, quadrate, shining black spots," visible from above, on its posterior margin (*C. tritea*, Walk., has three clove-brown spots on the posterior margin of the scutellum, but these are not visible from above); the clove-brown or black costal border sends off a branch towards the tip of the wing, as in *C. pulchella*, Austen, but the marking on the basal half of the wing is different, and the band covering the posterior transverse vein is almost triangular ("wedge-shaped," *apud* Loew, *loc. cit.*, p. 268), being broader on the posterior margin of the wing. As stated in the foregoing table, the humeral calli are yellow, and this character alone will serve to distinguish the species from *C. tritea*, Walk., in which the marking of the scutellum is somewhat similar, but the humeral calli are dark brown.